INTERPRETATION IC 62-2001-XX OF
ANSI/ASHRAE STANDARD 62-2001
VENTILATION FOR ACCEPTABLE INDDOR AIR QUALITY

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Reference: This request for interpretation refers to Section 6.2, Indoor Air Quality Procedure, of ANSI/ASHRAE Standard 62-1999.

Background: Since the mid 1970's, Purafil has worked with building owners, operators, engineers, and contractors in applying the Indoor Air Quality (IAQ) Procedure to a large number and variety of buildings. Initially the main impetus to consider using the IAQ Procedure was for reasons of energy conservation. However, as the general public became more sophisticated about indoor air quality and relevant issues, more emphasis has been placed on using the IAQ Procedure to actually improve the quality of the air being introduced from outdoors and moved throughout the building. People are stepping away from the idea that the Ventilation Rate Procedure provides acceptable indoor air quality ipso facto and are moving to address specific IAQ-related issues with the added benefit of being able to reduce energy consumption in many cases through the use of (gas-phase) filtration. In the next few paragraphs, I will describe Purafil's approach to applying the IAQ Procedure.

The first step involves an evaluation of the building. Purafil and the client discuss the building's design, operation, and use while attempting to identify any air contaminants that may be present and have a direct impact on IAQ. Contaminant data, whether indoor or outdoor, is obtained through direct monitoring, studies performed on similar types of buildings, or from information gathered by government agencies and research studies.

The second step is to perform calculations of indoor contaminant concentrations based on the contaminant generation rate, outdoor air ventilation rate, and filter efficiency for the specific application using the "Procedure for Use of Cleaned Recirculated Air" (Appendix E of ANSI/ASHRAE 62-1999). This procedure states that the

> "amount of outdoor air may be reduced by recirculating air from which offending contaminants have been removed or converted to less objectionable forms . . . The amount of outdoor air required [V_o] depends on the contaminant generation in the space [N], the contaminant concentrations in the indoor and outdoor air [C_s and C_o], the filter efficiency for the contaminants in question [E_f], the ventilation effectiveness [E_v], the supply air circulation rate [V_s], and the fraction recirculated [RV_r]."

Based on the type of ventilation system in place in the building, Appendix E, Table E-1 gives three equations to determine the required outdoor air (V_o), space contaminant concentration (C_s), and required recirculation rate (RV_r). We calculate the indoor air concentrations or supply air

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zone systems. Also, nNote that revisions have been proposed to the Indoor Air Quality Procedure, and the requester is advised to stay abreast of these and other changes to the standard.

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